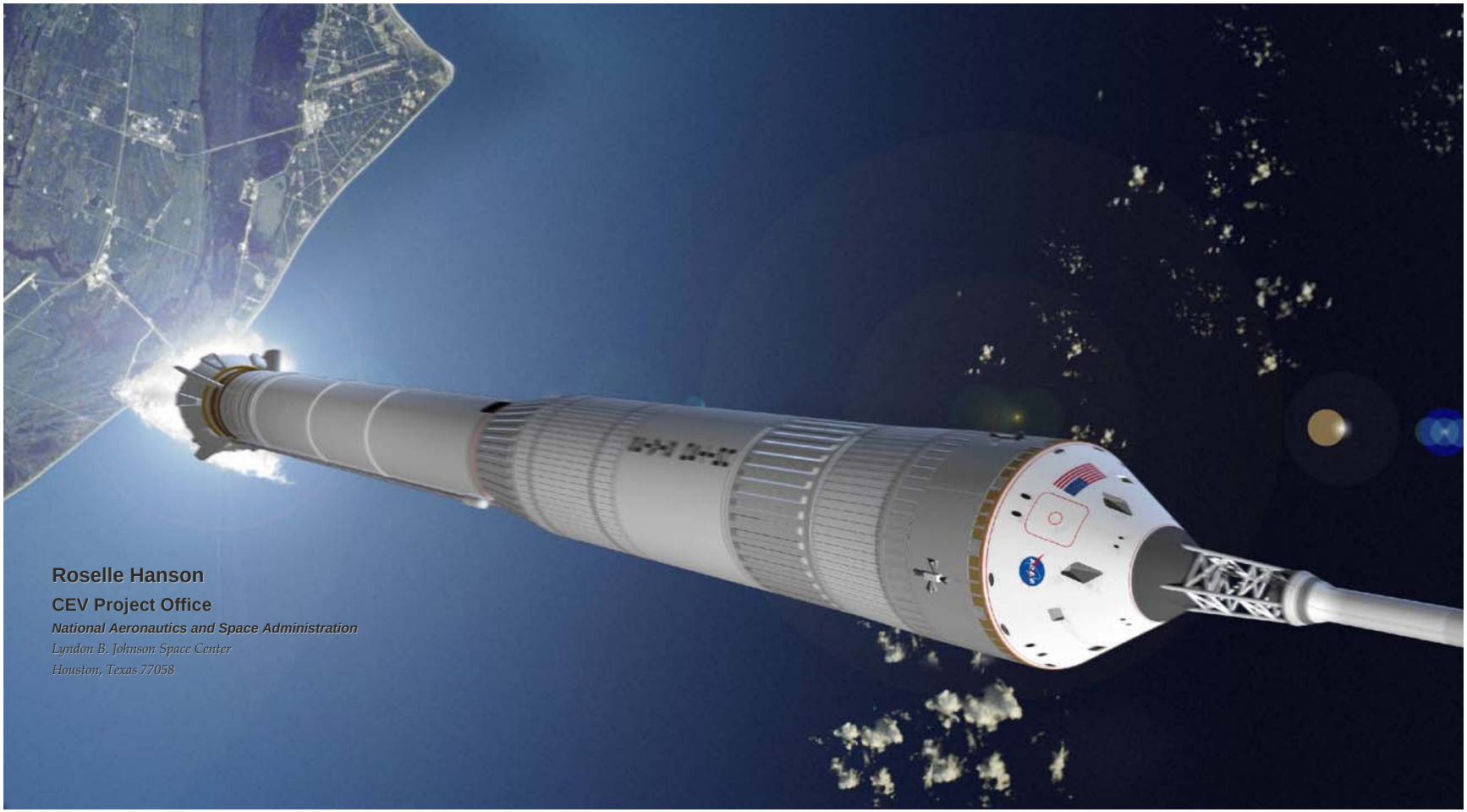
Crew Exploration Vehicle
Project Overview and Objectives



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Coronado Springs Resort
Lake Buena Vista, FL

Crew Exploration Vehicle

Description

- **The Crew Exploration Vehicle, CEV consists of the following elements:**

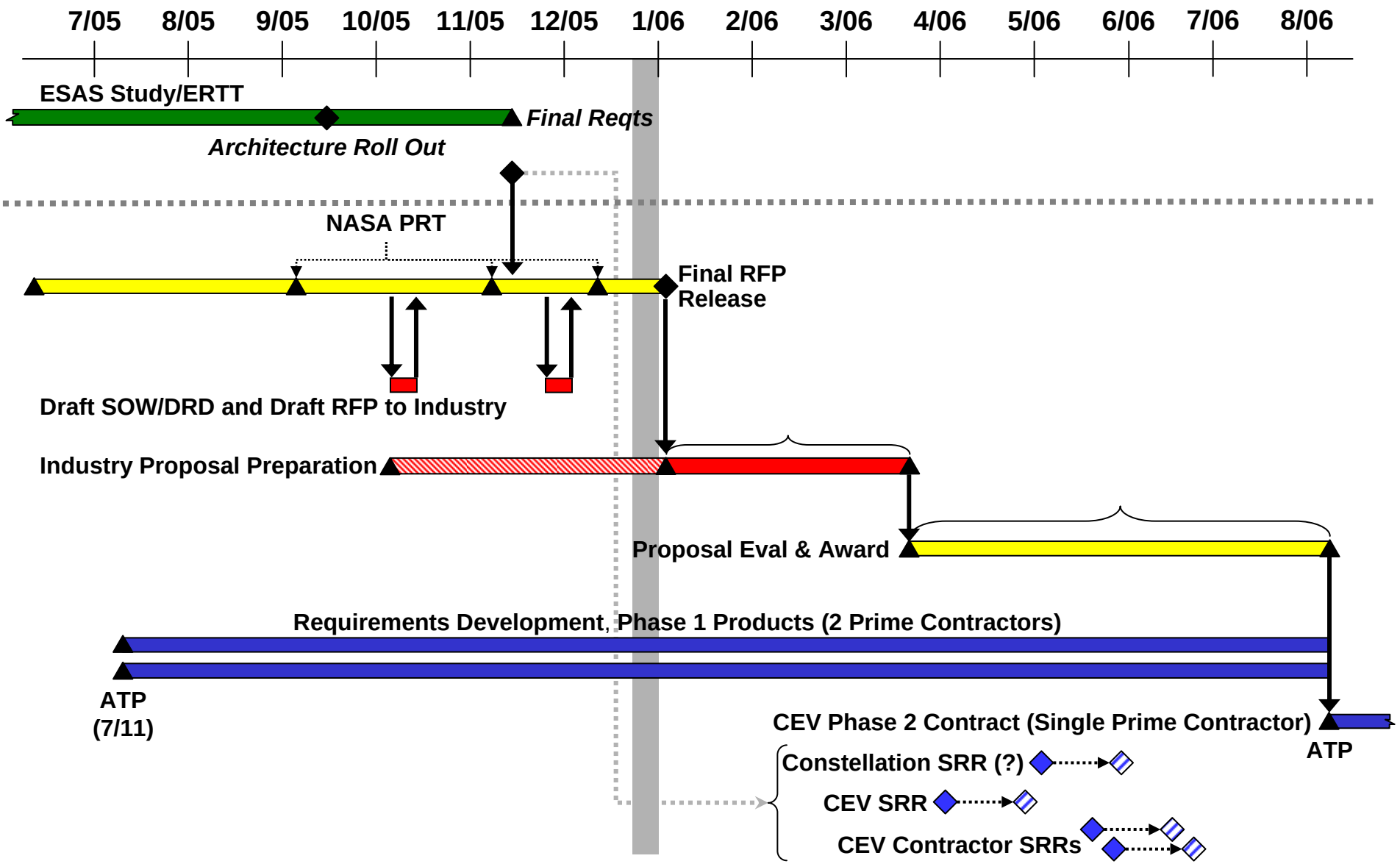
- **A pressurized module capable of meeting the following missions:**
  - **Up to 6 crew members to ISS and return**
  - **Up to 4 crew members to Lunar orbit and return**
  - **Pressurized Cargo to ISS and return**
- **An un-pressurized module capable of delivering cargo to ISS**
- **A Service Module with propulsive capability to support all CEV missions**

Crew Exploration Vehicle

Acquisition Strategy

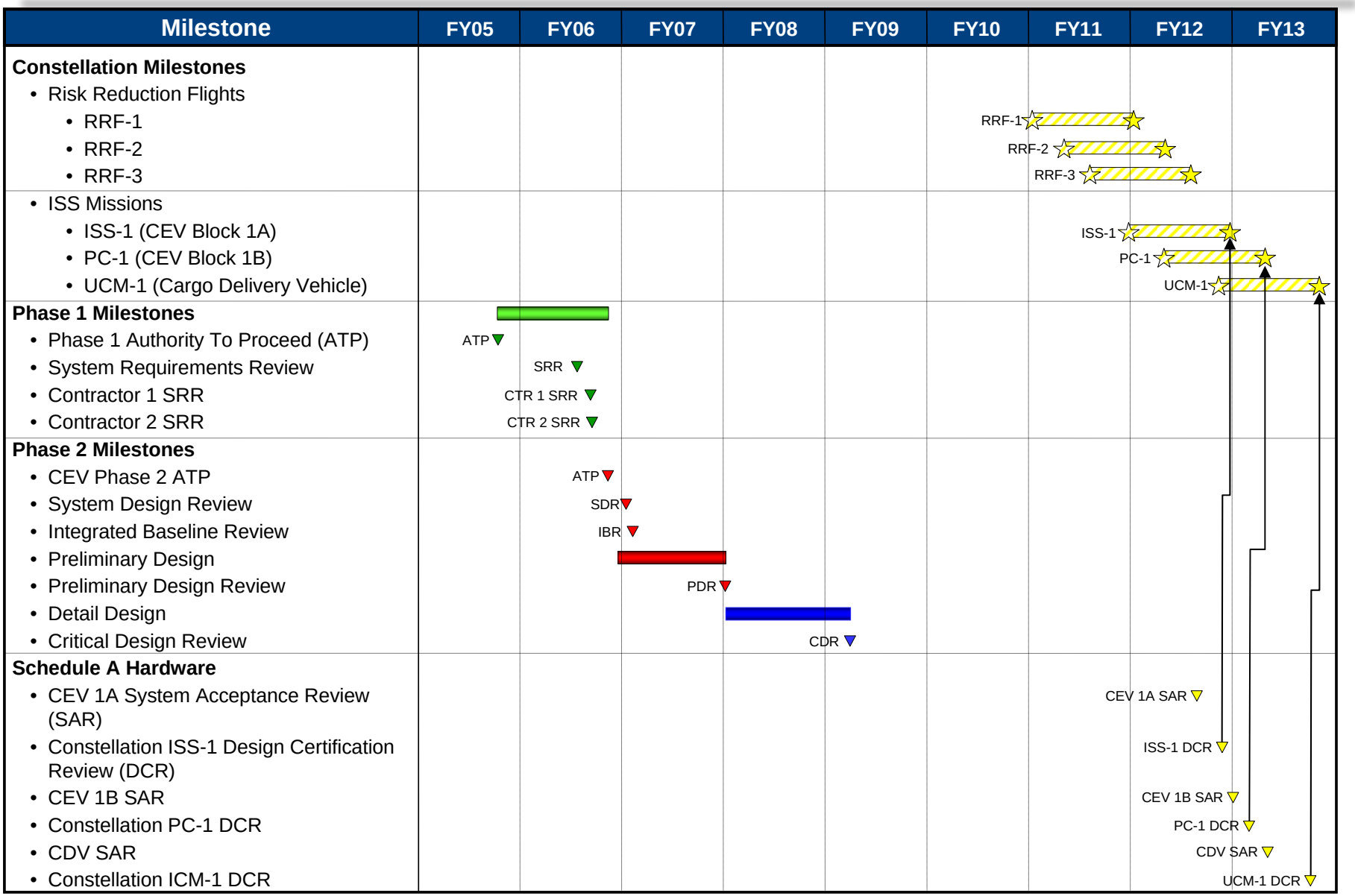
- **CEV is currently in a "Phased Down Select" competition**
- **Two CEV prime contractors were selected in early 2005 and will compete for final down select in mid 2006**
- **Request for Proposals will be issued in January**
- **The contract will include the initial DDT&E and delivery of the first human and cargo derivatives**
- **In addition this contract will have provisions for sustaining engineering and the purchase of production vehicles**

CEV Phase 2 RFP Schedule



Crew Exploration Vehicle

CEV Schedule



Crew Exploration Vehicle

Overview of Special Topics

- **The Government will take on a substantial role in development of the CEV**
- **The Project has targeted several areas to increase the role of NASA**
- **The Government roles take on the following basic forms:**
  - **Increased Design Oversight**
  - **Integrated NASA/Contractor Teams**
  - **Government Led Advanced Development**
  - **Government Furnished Equipment**
  - **Flight Testing Execution**
- **The Prime will still be responsible for overall system design, verification and delivery, but NASA will take on a significant role in oversight and initial design**

Crew Exploration Vehicle

Overview of Special Topics

- **NASA will take the lead in Advanced Development in the following areas:**
  - **Thermal Protection Systems – NASA Ames leading**
  - **LOX/Methane Service Module Propulsion – NASA Glenn leading**
  - **Landing Attenuation Systems – NASA LaRC leading**
- **NASA will provide the following as Government Furnished Equipment to the CEV Prime contractor:**
  - **Parachute systems – NASA JSC leading**
  - **Low Impact Docking Systems (LIDS) – NASA JSC leading**
  - **CEV Outer Mold Line (OML) & Aerodynamic and Aerothermal Databases – NASA JSC leading**
  - **Un-pressurized Cargo Carrier – NASA LaRC leading**
  - **Pyrotechnic Initiators – NASA JSC leading**

Crew Exploration Vehicle

Objectives

- **Optimize crew safety while ensuring a reasonable, obtainable design**
- **Deliver a quality design that ensures simplicity and addresses all aspects of human spacecraft development, certification and operations**
- **Deliver a human-rated CEV design that is qualified for the Lunar Design Reference Mission environments and performance**
- **By 2012, execute a human-crewed CEV to ISS**
- **Meet objectives within an established cost, schedule, and technical baseline.**
- **Maximize the use of existing technology in the design and production of the CEV.**
- **Base the vehicle design on an Open Systems Architecture.**
- **Simplify the interface design between the CEV and Launch System to optimize integration.**
- **Design the CEV spacecraft and ground systems to achieve innovative and streamlined operations.**